

April 3, 2007  
Case No.: US 0106097 (DWH1)  
Serial No.: 10/042,891  
Filed: January 9, 2002  
Page 2 of 16

### **SPECIFICATION AMENDMENTS**

Please amend the paragraph starting on page 3, line 18 as follows:

"U.S. Patent No. [[6,253,507]] 6,263,507 to Ahmad et. al. ("Ahmad"), the disclosure of which is incorporated by reference herein, relies on text, if it is available, as the main factor in determining story boundaries. However, sometimes other modalities are more reliable in providing clues usable to detect specific stories. In deciding on which modalities dominate in story detection, or on the priorities they are accorded, the characteristics of the story to be detected are preferably taken into consideration."

Please amend the paragraph starting on page 14, line 15 as follows:

"Ahmad (U.S. Patent No. [[6,253,507]] 6,263,507) discusses music recognition methods, whereby a distinctive musical theme, such as one that introduces a particular broadcast television program, can used to identify a "break" in the audio. In the context of the present invention, the theme or part of the theme would be a "sub-attribute" of the music attribute. For example, the value of the theme attribute may be a measure of the similarity between the content of the audio stream 118 and the theme or theme portion to be detected. Additional techniques for identifying periods of uniformity in audio are implementable based on pause recognition, voice recognition and word recognition methods. The present inventors have investigated a total of 143 classification features for the problem of segmenting and classifying continuous audio data into seven categories. The seven audio categories used in the system include silence, single speaker speech, music, environmental noise, multiple speakers' speech, simultaneous speech and music, and speech and noise."

Please amend the paragraph starting on page 8, line 24 as follows:

"In an alternative embodiment, a story segment is included in the cumulative, inter-attribute union only if its temporal intersection with the story attribute time interval determined based on the dominant attribute is at least a predetermined ratio of the length of the story

April 3, 2007  
Case No.: US 0106097 (DWH1)  
Serial No.: 10/042,891  
Filed: January 9, 2002  
Page 3 of 16

attribute time interval determined based on the dominant attribute. For a ratio of 50%, for example, interval 326 temporally intersects interval 312 by at least 50% of the length of interval 312, and thus is included within the cumulative, inter-attribute union. [[Similarly]] Conversely, interval 328 temporally [[intersects]] does not intersect interval 314 by at least 50% of the length of interval 314, and is [[likewise]] not included within the cumulative, inter-attribute union. Therefore, at this point in the accumulations, the union is delimited by the times 330, 318, [[334]] 320, 322. None of the intervals 232, 234, 236 intersect the intervals 312, 314, respectively, by at least 50% of the lengths of the intervals 312, 314, respectively, and are, therefore, not included within the cumulative, inter-attribute union. The same holds for the intervals 352, 354, which are likewise not included within the cumulative, inter-attribute union. Accordingly, the start and end times of the union are now defined by the times 330, 318, 320, 322, and the stopping criterion stops merging at this point. These times are shown in representation 370, where like reference numerals have been carried down from the previous representations. Representation 370 is a cumulative, inter-attribute union that defines two story segment time intervals 372, 374. The two story segment time intervals 372, 374 are deemed to delimit separate stories because they are temporally mutually exclusive."

Please amend the paragraph starting on page 5, line 25 as follows:

"FIG. 4 is an exemplary functional diagram of an inter-attribute merge process 400 that demonstrates the option of forming a union of the story attribute time intervals of two attributes before proceeding with the merge. (This inter-attribute "union" is to be distinguished from inter-attribute "consolidation", as shown earlier between "close-caption" and "keyword" attributes. The union of temporally exclusive time intervals, for example, is different from the "consolidation" of those time intervals, which produces a time interval that spans the two temporally exclusive time intervals.) Reference numbers are retained for those that are associated with structures already shown in FIG. 3. A representation 410 contains story attribute time intervals 412, 414 that are respective unions of the story attribute time intervals 312, [[330]] 326 and of the story attribute time intervals 314, 328, respectively. The inter-attribute merge

April 3, 2007

Case No.: US 0106097 (DWH1)

Serial No.: 10/042,891

Filed: January 9, 2002

Page 4 of 16

module 152 creates the unions 412 and 414 before beginning the merge process illustrated in FIG. 3. The story attribute time intervals 412, 414 are both determined based on a dominant attribute, namely "pan" (and also determined based on a non-dominant attribute, namely "color"). The representations 230 and 350 appear also in FIG. 3 and correspond to the text attribute "keyword" and the audio attribute "noise".